

CLAIMS

1. A method for screening a sample  
containing a nucleic acid for the presence of an  
organism for which a nucleotide sequence is not  
5 known comprising the steps of:

sequencing all nucleic acid in a sample;

comparing the nucleotide sequence obtained  
in said sequencing step to nucleotide sequences from  
known organisms;

10 identifying a continuous run of nucleotide  
sequence as not corresponding to a known nucleotide  
sequence; and

confirming the continuous run of  
nucleotide sequence as a nucleotide sequence of an  
15 organism for which the nucleotide sequence was not  
otherwise known.

2. The method as recited in claim 1  
wherein said sequencing step comprises the step of  
sequencing the nucleic acid by hybridization with  
20 probes of known sequence.

0951744-091804  
FOI(b)(7)(D), (b)(7)(E)

3. The method as recited in claim 1 wherein said confirming step comprises the step of constructing an oligonucleotide probe having a continuous sequence of nucleotides or the complement thereto as found in the unknown sequence but not in known sequences;

exposing, under stringent hybridization conditions, the labeled oligonucleotide probe to a sample suspected of containing the oligonucleotide sequence; and

identifying the presence of a hybridization complex between the labeled oligonucleotide probe and the previously unknown nucleic acid in the sample.

4. The method as recited in claim 1 further comprising a second comparing step wherein a second continuous run of nucleotide sequence is compared with known nucleotide sequences.

5. The method as recited in claim 1 wherein said confirming step comprises the steps of:

exposing the sample under stringent hybridization conditions to an oligonucleotide probe complementary to a portion of said unknown nucleotide sequence but not to a known nucleotide sequence; and

separating a fraction containing a nucleic acid hybridizing to the labeled oligonucleotide from other fractions of the sample.

6. The method as recited in claim 5 further comprising the step of microscopically examining the fraction containing the labeled oligonucleotide probe.

7. The method as recited in claim 5 further comprising the step of sequencing nucleic acid in the fraction containing the labeled oligonucleotide probe.

5 8. The method as recited in claim 5 further comprising a second exposing step wherein the labeled oligonucleotide probe is exposed under stringent hybridization conditions to a second sample.

10 9. The method as recited in claim 8 wherein said second exposing step comprises the step of obtaining a sample from a second individual.

15 10. The method as recited in claim 8 wherein said second exposing step comprises the step of obtaining a second sample from the same individual.

09954744-091801

100-100